



PATENT  
Customer No. 22,852  
Attorney Docket No. 08350.0663

**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of: )  
)  
Kazunori YOSHINO ) Group Art Unit: 3745  
)  
Application No.: 10/029,290 ) Examiner: Frank D. Lopez  
)  
Filed: December 28, 2001 ) Confirmation No.: 3082  
)  
For: HYDRAULIC CONTROL )  
SYSTEM FOR REDUCING )  
MOTOR CAVITATION )

**Mail Stop Appeal Brief--Patents**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**TRANSMITTAL OF APPEAL BRIEF (37 C.F.R. 41.37)**

Transmitted herewith is the APPEAL BRIEF in this application with respect to the  
Notice of Appeal filed on July 25, 2005.

This application is on behalf of

☐ Small Entity ☒ Large Entity

Pursuant to 37 C.F.R. 41.20(b)(2), the fee for filing the Appeal Brief is:

☐ \$250.00 (Small Entity)

☒ \$500.00 (Large Entity)

**TOTAL FEE DUE:**

Appeal Fee Brief	\$500.00
Extension Fee (if any)	\$120.00
Total Fee Due	\$620.00

☒ Enclosed are two checks for \$500.00 to cover the Appeal Brief fee and a \$120.00 to cover the extension of time fee.

PETITION FOR EXTENSION. If any extension of time is necessary for the filing of this Appeal Brief, and such extension has not otherwise been requested, such an extension is hereby requested, and the Commissioner is authorized to charge necessary fees for such an extension to our Deposit Account No. 06-0916.

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

Dated: November 22, 2005

By: 

Christopher T. Kent  
Reg. No. 48,216



PATENT  
Customer No. 22,852  
Attorney Docket No. 08350.0663-00000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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Commissioner for Patents  
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Sir:

**APPEAL BRIEF UNDER 37 C.F.R. § 41.37**

This is an appeal to the Board of Patent Appeals and Interferences ("the Board") from the final Office Action dated February 23, 2005 ("Final Office Action"), finally rejecting claims 1, 4, 5, 7, 9, 10, 12-16, and 21 in association with the above-referenced patent application. Pursuant to 37 C.F.R. § 41.37, Appellant submits one copy of this Appeal Brief accompanied by a Petition requesting a one-month extension of time and fee payment filed concurrently herewith. A fee payment of \$500.00 in accordance with 37 C.F.R. § 41.20(b)(2) was timely filed along with a Notice of Appeal under 37 C.F.R. § 41.31 and a Pre-Appeal Brief Request for Review on July 25, 2005. This Appeal Brief is timely filed.

I. **Real Party in Interest**

The real party in interest is Caterpillar Inc., the assignee of the entire right, title, and interest in the application.

**II. Related Appeals and Interferences**

Appellant, Appellant's legal representatives, and assignee are not aware of any other appeals, interferences, or judicial proceedings that may be related to, directly affect, be directly affected by, or have a bearing on the Board's decision in this appeal.

**III. Status of Claims**

Claims 1, 4, 5, 7, 9, 10, 12-16, and 21 are pending in this application. Claims 1, 4, 5, 7, 9, 10, 12-16, and 21, as set forth in the Claims Appendix, have been finally rejected in the Final Office Action, and the rejections of those claims are at issue in this appeal.

**IV. Status of Amendments**

No amendments under 37 C.F.R. § 1.116 have been filed subsequent to or in response to the Final Office Action.

## **V. Summary of Claimed Subject Matter**

### **A. Claim 1**

The subject matter set forth in claim 1 relates to a fluid control system (100).<sup>1</sup> (Page 3, lines 19-21; Fig. 1.) The fluid control system (100) comprises at least one double-acting cylinder (128, 138), at least one fluid-driven motor (148, 158), and a pressurized fluid source (112) configured to supply pressurized fluid flow to the at least one double-acting cylinder (128, 138) and the at least one fluid-driven motor (148, 158). (Page 3, lines 21-23; p. 4, lines 5-6, 17, 25-28; p. 5, lines 3-6.) The fluid system (100) further comprises a tank (114) configured to receive return fluid flow from the at least one double-acting cylinder (128, 138) via a cylinder return line (192) and the at least one fluid-driven motor (148, 158) via a motor return line (196), and a back pressure element (160) disposed between the tank (114) and the motor (148, 158). (Page 3, line 23; p. 4, lines 22-23, 26-28; p. 5, lines 10-12, 15-17.) The back pressure element (160) is configured to influence a fluid backpressure condition on fluid discharged from the motor (148, 158). (Page 5, lines 17-20.) The fluid system (100) also comprises a combination main relief and by-pass valve (166) disposed at a first flow line (198). (Page 5, line 21, through p. 6, line 2.) The first flow line (198) is configured to provide fluid communication between the source of pressurized fluid (112) and the motor return flow line (196). (Page 6, lines 2-4.) The fluid system (100) further comprises a pilot pump (170) configured to provide a pilot flow of fluid, and a pilot relief valve (174) disposed at a second flow line (172). (Page 6, lines 7-10, 13-15.) The

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<sup>1</sup> The references to the specification and drawings in this Appeal Brief are intended to merely facilitate explaining how the originally-filed application provides exemplary embodiments and exemplary disclosure relating to the claimed subject matter. Those references should not be construed as limiting the scope of any of the claims.



second flow line (172) is configured to provide fluid communication between the pilot pump (170) and the motor return flow line (196) in parallel with the first flow line (198). (Page 6, lines 13-15.) At least one of the first (198) and second flow lines (172) is configured to provide make-up fluid to the motor (148, 158). (Page 8, lines 7-13; p. 9, lines 2-7.)

## **B. Claim 15**

The subject matter set forth in claim 15 relates to a method for controlling a hydraulic circuit (100). (Page 3, lines 19-20; Fig. 1.) The method for controlling a hydraulic circuit (100) comprises supplying fluid to at least one motor (148, 158) and to at least one cylinder (128, 138) from a pressurized supply (112), and directing fluid away from the at least one cylinder (128, 138) and into a tank (114). (Page 4, lines 4-6, 13-17, 25-28; p. 5, lines 3-5.) The method further comprises directing fluid away from the at least one motor (148, 158), across a back pressure element (160), and into the tank (114). (Page 5, lines 15-17.) The method also comprises directing fluid from the pressurized supply (112) to a first flow line (198) that includes a combination main relief and by-pass valve (166). (Page 5, line 28, through p. 6, line 2.) The method further comprises directing fluid from a pilot fluid supply (170) to a second flow line (172) that includes a pilot relief valve (174). (Page 6, lines 13-15, 19.) The second flow line (172) is parallel to the first flow line (198). (Page 8, lines 7-10; Fig. 1.) The method also comprises supplying a dedicated make-up fluid supply from at least one of the first flow line (198) and the second flow line (172) to a valve arrangement (106, 108) at a location between the at least one motor (148, 158) and the back pressure element (160). (Page 4, line 24, through p. 5, line 6; p. 8, lines 4-13.)

**VI. Grounds of Rejection to be Reviewed on Appeal**

Claims 1, 4, 15, and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,063,742 to Yoshimatsu ("Yoshimatsu '742") in view of U.S. Patent No. 4,665,699 to Krusche ("Krusche") and U.S. Patent No. 5,062,266 to Yoshimatsu ("Yoshimatsu '266").

Claims 5, 7, 9, 10, 12-14, and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshimatsu '742 in view of Krusche and Yoshimatsu '266, and further in view of U.S. Patent No. 5,673,605 to Chung ("Chung") and an alleged "further teaching of" Krusche.

## VII. Argument

### Summary of Argument

The Examiner rejected claims 1, 4, 15, and 16 under 35 U.S.C. § 103(a) based on Yoshimatsu '742 in combination with Krusche and Yoshimatsu '266. Claims 1 and 15 are the only independent claims rejected under § 103(a) based on those references, and Appellant respectfully submits that the § 103(a) rejection of independent claims 1 and 15 should be reversed because the Final Office Action fails to establish a case of *prima facie* obviousness. For example, there is no suggestion or motivation to modify the Yoshimatsu '742 reference in the Examiner's proposed, hypothetical manner based on the Krusche reference at least because neither the cited references nor anything else in the record supports the Examiner's functional equivalence allegations appearing in the Final Office Action at page 4. Further, there is no suggestion or motivation to modify the Yoshimatsu '742 reference in the Examiner's proposed, hypothetical manner based on the Yoshimatsu '266 reference at least because the proposed modification would require changing the principle of operation of the Yoshimatsu '742 reference's disclosed system. For at least these reasons, the § 103(a) rejection based on the Examiner's proposed, hypothetical combinations of the Yoshimatsu '742, Krusche, and Yoshimatsu '266 references is improper and should be reversed.

### **Detailed Argument**

**A. The rejection of claims 1, 4, 15, and 16 under 35 U.S.C. § 103(a) based on Yoshimatsu '742 in combination with Krusche and Yoshimatsu '266 should be reversed**

**1. *There is no legally sufficient suggestion or motivation to modify Yoshimatsu '742 in the Examiner's proposed, hypothetical manner based on Krusche***

There is no suggestion to modify the Yoshimatsu '742 reference in the Examiner's proposed, hypothetical manner based on the Krusche reference at least because nothing in the record provides any support for the Examiner's functional equivalence allegations appearing in the Final Office Action at page 4.

According to the guidance of the M.P.E.P., "[t]o establish a *prima facie* case of obviousness, . . . there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." M.P.E.P. § 2143. Under prevailing U.S. patent law as interpreted by the U.S. Court of Appeals for the Federal Circuit ("the Federal Circuit"), "[t]he teaching or suggestion to make the claimed combination . . . must . . . be found in the prior art, not in applicant's disclosure." Id. (citing In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991)). Furthermore, according to the Federal Circuit's guidance, "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." § 2143.01 (citing In re Mills, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990)) (emphasis in original). Furthermore, "[i]n order to rely on equivalence as a rationale supporting an obviousness rejection," the established legal precedent adopted by the Federal Circuit requires that

“the equivalency must be recognized in the prior art, and cannot be based on applicant's disclosure or the mere fact that the components at issue are functional or mechanical equivalents.” § 2144.06 (citing In re Ruff, 256 F.2d 590, 118 U.S.P.Q. 340 (C.C.P.A. 1958)) (emphasis added).

In the Final Office Action, the Examiner asserts that the Yoshimatsu '742 reference discloses, among other things,

a fluid control system and method of operating  
comprising . . . a dedicated flow line configured to provide  
make up fluid to [a] motor at a location between the motor  
and [a] back pressure element; and a pilot pump (21, shown  
in fig. 1, and schematically connected to pilot valve 24, in  
fig. 3)) [sic] provid[ing] fluid across a pilot relief valve (23)  
disposed in a second flow line, connected to tank (15) . . . .

Final Office Action at 3. The Examiner concedes, however, that the Yoshimatsu '742 reference “does not disclose that the second flow line is connected to the motor return flow line, in parallel to the first flow line . . . .” Id. The Examiner nevertheless asserts that the Krusche reference discloses “a fluid control system and method of operating comprising . . . a pilot pump (25) provid[ing] fluid across a pilot relief valve (196) disposed in a second flow line (194,200), connected to the tank; [and] that the second flow line is connected to the motor return flow line (see fig 3).” Id. The Examiner thereafter alleges that “[s]ince the connection between the pilot relief valve and the tank of Yoshimatsu (5,063,742) and Krusche are functionally equivalent; it would have been obvious . . . to connect the second flow line of Yoshimatsu (5,063,742) to the motor

return flow line, as taught by Krusche, as a matter of engineering expediency.” Id. at 4. Further, in the Final Office Action’s Response to Amendment section, the Examiner asserts that “[s]ince the pilot pumps of Yoshimatsu (5,063,742) and Krusche perform the same function of supplying pilot pressure to pilot valves for directional control valves, and the pressure relief valves of Yoshimatsu (5,063,742) and Krusche both perform the same function of limiting the pilot pressure to be less than a certain value; the statement of functional equivalence [in the Office Action dated August 31, 2004,] is correct and the rejection is proper.” Id. at 2.

Appellant respectfully disagrees with the Final Office Action’s above-outlined assertions at least because the Final Office Action has failed to show that there is any legally sufficient suggestion or motivation to combine the Yoshimatsu ’742 and Krusche reference teachings in the Examiner’s proposed, hypothetical manner. Appellant respectfully submits that nothing in the cited references or anywhere else supports the Examiner’s assertions about how the connection between the pilot relief valve and the tank of Yoshimatsu ’742 and Krusche is allegedly “functionally equivalent.” In other words, the Final Office Action has not identified any source of evidence suggesting that the alleged functional equivalence has any recognition in the prior art. Rather, the Examiner’s assertions appear to be relying solely on either Appellant’s disclosure or a completely unsupported “functionally equivalent” allegation. Since neither of those sources of support is legally sufficient under the guidance of established legal precedent adopted by the Federal Circuit, the functional equivalence assertion is fundamentally inadequate to support the 35 U.S.C. § 103(a) claim rejection based on the Yoshimatsu ’742 reference in combination with Krusche and Yoshimatsu ’266. As a result, there is

no legally sufficient suggestion or motivation to make the Final Office Action's proposed, hypothetical modification to the Yoshimatsu '742 reference based on Krusche. For at least this reason, the Final Office Action has failed to establish a *prima facie* case of obviousness.

**2. *There is no legally sufficient suggestion or motivation to modify Yoshimatsu '742 in the Examiner's proposed, hypothetical manner based on Yoshimatsu '266***

In addition to the Final Office Action lacking any legally sufficient suggestion or motivation to modify the Yoshimatsu '742 reference based on the Krusche reference, the Final Office Action also lacks any legally sufficient suggestion or motivation to make the Examiner's proposed, hypothetical modification based on the Yoshimatsu '266 reference.

The Federal Circuit advises that "[t]he mere fact that references can be combined or modified does not render the resultant combination [or modification] obvious unless the prior art also suggests the desirability of the combination [or modification]."

M.P.E.P. § 2143.01 (citing In re Mills, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990)) (emphasis in original). Furthermore, established legal precedent advises that "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." § 2143.02 (citing In re Ratti, 270 F.2d 810, 123 U.S.P.Q. 349 (C.C.P.A. 1959)). Since the Yoshimatsu '742 and Yoshimatsu '266 references do not suggest the desirability of the Examiner's proposed, hypothetical modification to Yoshimatsu '742's disclosure, and since the proposed modification would require changing Yoshimatsu '742's principle of

operation even if there were a suggestion of the desirability, the Final Office Action has failed to establish a case of *prima facie* obviousness.

In the Final Office Action, the Examiner concedes that the Yoshimatsu '742 reference does not disclose “[a] main [pressure] relief valve [that] is a combination main relief valve and bypass valve.” Final Office Action at 3. The Examiner, however, asserts that the Yoshimatsu '266 reference discloses a “main relief valve [(17) that] is a combination main relief and bypass valve (17 in combination with 18), for the purpose of unloading the pressure source, when not needed to provide pressurized fluid (e.g., column 4 line 2-8).” Id. at 4. The Examiner thereafter asserts that “[i]t would have been obvious . . . to make the main pressure relief valve of Yoshimatsu (5,063,742) . . . a combination main relief and bypass valve . . . for the purpose of unloading the pressure source, when not needed to provide pressurized fluid.” Id. at 4.

Appellant respectfully disagrees with the Examiner’s assertion about modifying the Yoshimatsu '742. As an initial matter, the Examiner fails to identify any suggestion for modifying the Yoshimatsu '742 reference’s disclosure to include a combination main relief and bypass valve as asserted in the rejection statement. Rather, the Examiner relies merely on his assertion that the Yoshimatsu '742 and Yoshimatsu '266 references are in the same field of endeavor, such that the purpose disclosed in Yoshimatsu '266 would have been recognized in the pertinent art of Yoshimatsu '742. See Final Office Action at 4. Neither of Yoshimatsu '742 and '266 references, however, provides any suggestion of a desirability of making the Examiner’s proposed, hypothetical modification. For at least that reason, there is no legally sufficient suggestion or



motivation to make the Examiner's proposed, hypothetical modification to the Yoshimatsu '742 disclosure based on Yoshimatsu '266.

In addition, making the Examiner's proposed, hypothetical modification to the Yoshimatsu '742 reference would require changing its principle of operation. The Yoshimatsu '742 reference discloses a hydraulic control system including a purely mechanical control system for controlling swing motion of a revolving superstructure. In particular, the Yoshimatsu '742 reference discloses a main relief valve 12 having a pre-set relief pressure  $P_M$  of 210 kg/cm<sup>2</sup>, which is connected to a line 11 that is connected to a discharge port of a main hydraulic pump 1. (Col. 5, lines 37-39.) The main relief valve 12 operates to limit the pressure applied to port 3a of hydraulic motor 3 to the pre-set relief pressure of  $P_M$  (210 kg/cm<sup>2</sup>) of the main relief valve 12 while the hydraulic motor 3 is driven. (Col. 7, lines 20-27.)

The Yoshimatsu '266 reference, on the other hand, discloses an electronic slewing control device for a crane. In particular, the Yoshimatsu '266 reference discloses a main circuit 10 connected to a discharge opening of a hydraulic pump 1. (Col. 3, lines 66-67.) An inlet port of a slewing unit U is connected to the main circuit 10, and a main relief valve 17 is connected to the main circuit 10. (Col. 3, line 68, through col. 4, line 2.) A vent circuit of the main relief valve 17 includes an electromagnetic selector valve 18, which can select either an on-load position where the vent circuit is blocked by the valve 18 to on-load the hydraulic pump 1 or an unload position where the vent circuit is in communication with a tank 7 to unload the hydraulic pump 1. (Col. 4, lines 2-8.) The Yoshimatsu '266 reference further discloses an electronic controller 8, which receives detection signals from detectors and determines

a slewing stop timing, and when a slewing stop signal is generated, the controller 8 outputs a selected signal to the electromagnetic selector valve 18. (Col. 5, lines 9-19.) During slewing acceleration and inertial slewing, when an automatic stop signal is output from the controller 8, the electromagnetic selector valve 18 is activated such that the discharge oil is unloaded from the hydraulic pump 1 to the tank 7. (Col. 8, lines 59-64.)

In short, the Yoshimatsu '742 reference relates to a purely mechanical control system for controlling swing motion of a slewing mechanism. The main relief valve 12 of Yoshimatsu '742 operates to limit the pressure applied to port 3a of hydraulic motor 3 to the pre-set relief pressure of  $P_M$  (210 kg/cm<sup>2</sup>). Rather than having an electric controller, the subject matter of the Yoshimatsu '742 reference is controlled by purely mechanical control mechanisms. In contrast, the Yoshimatsu '266 reference relates to an electrohydraulic control system, including a controller 8 for controlling a slewing mechanism. The main relief valve 17 of Yoshimatsu '266 includes an electromagnetic selector valve 18, which is controlled via signals from an electronic controller 8, such that the discharge oil is unloaded from a hydraulic pump 1 to a tank 7. Therefore, even if, for the sake of argument, the electromagnetic selector valve 18 of Yoshimatsu '266 were somehow incorporated into Yoshimatsu '742's disclosed mechanical system, as proposed by the Examiner, the Yoshimatsu '742 system's principle of operation would need to be changed from mechanical control to electronic control in order to properly control the electromagnetic valve 18. Since its principle of operation would need to be changed, there is no legally sufficient suggestion or motivation to make the Examiner's

proposed, hypothetical modification to the Yoshimatsu '742 disclosure based on the teachings of Yoshimatsu '266.

For at least the above-outlined reasons, the Final Office Action has failed to establish a *prima facie* case of obviousness. Thus, independent claims 1 and 15 are patentably distinguishable from the Yoshimatsu '742, Krusche, and Yoshimatsu '266 references, regardless of whether those references are viewed individually or in combination. Therefore, Appellant respectfully requests the reversal of the 35 U.S.C. § 103(a) rejection of independent claims 1 and 15 based on the Yoshimatsu '742, Krusche, and Yoshimatsu '266 references.

**B. The rejection of claims 5, 7, 9, 10, 12-14, and 21 under 35 U.S.C. § 103(a) based on Yoshimatsu '742 in combination with Krusche and Yoshimatsu '266, and further in view of Chung should be reversed**

***Claims 5, 7, 9, 10, 12-14, and 21 ultimately depend from independent claims 1 and 15, so they should be allowable for at least the same reasons independent claims 1 and 15 are allowable***

In the Final Office Action, the Examiner rejected claim 5, 7, 9, 10, 12-14, and 21 under 35 U.S.C. § 103(a) based on based on Yoshimatsu '742, Krusche, and Yoshimatsu '266 along with Chung and “a further teaching of” Krusche. Final Office Action at 4. Claims 5, 7, 9, 10, 12-14, and 21 depend from either allowable independent claim 1 or allowable independent claim 15. Therefore, those dependent claims should be allowable for at least the same reasons independent claims 1 and 15 are allowable. Furthermore, the Chung reference does not overcome the above-outlined deficiencies of the Yoshimatsu '742, Krusche, and Yoshimatsu '266 references. Therefore, Appellant respectfully requests reversal of the rejection of claims 5, 7, 9, 10, 12-14, and

21 under 35 U.S.C. § 103(a) based on Yoshimatsu '742, Krusche, and Yoshimatsu '266 along with Chung and "a further teaching of" Krusche.

**C. Conclusion**


For at least the reasons outlined above, Appellant respectfully submits that independent claims 1 and 15 are allowable. Furthermore, since each of dependent claims 4, 5, 7, 9, 10, 12-14, 16, and 21 ultimately depends from a corresponding one of independent claims 1 and 15, each of dependent claims 4, 5, 7, 9, 10, 12-14, 16, and 21 is allowable for at least the same reasons independent claims 1 and 15 are allowable. Therefore, Appellant respectfully requests that the Board of Patent Appeals and Interferences reverse the outstanding claim rejections and permit allowance of all of pending claims 1, 4, 5, 7, 9, 10, 12-16, and 21.

To the extent any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this Appeal Brief, such extension is hereby respectfully requested. If there are any fees due which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

Dated: November 22, 2005

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## **VIII. Claims Appendix**

1. A fluid control system comprising:
  - at least one double-acting cylinder;
  - at least one fluid-driven motor;
  - a pressurized fluid source configured to supply pressurized fluid flow to the at least one double-acting cylinder and the at least one fluid-driven motor;
  - a tank configured to receive return fluid flow from the at least one double-acting cylinder via a cylinder return line and the at least one fluid-driven motor via a motor return line;
  - a back pressure element disposed between the tank and the motor, the back pressure element being configured to influence a fluid backpressure condition on fluid discharged from the motor;
  - a combination main relief and by-pass valve disposed at a first flow line, the first flow line being configured to provide fluid communication between the source of pressurized fluid and the motor return flow line;
  - a pilot pump configured to provide a pilot flow of fluid; and
  - a pilot relief valve disposed at a second flow line, the second flow line being configured to provide fluid communication between the pilot pump and the motor return flow line in parallel with the first flow line,
- wherein at least one of the first and second flow lines is configured to provide make-up fluid to the motor.

Claim 2 (Canceled).

Claim 3 (Canceled).

4. The system of claim 1, wherein the motor return line is configured to provide fluid communication between the at least one fluid-driven motor and the tank, the back pressure element is associated with the motor return line, and said at least one of the first and second flow lines is configured to provide make-up fluid to the motor return line upstream of the back pressure element.

5. The system of claim 4, wherein said cylinder return line is configured to provide fluid communication between the at least one double-acting cylinder and the tank without passing across the back pressure element.

Claims 6 (Canceled).

7. The system of claim 5, further including:

a plurality of double-acting cylinders; and

a plurality of fluid-driven motors, the cylinder return line being configured to provide fluid communication from the plurality of double-acting cylinders to the tank and the motor return line being configured to provide fluid communication from the plurality of fluid-driven motors to the tank.

Claim 8 (Canceled).

9. The system of claim 7, wherein at least one of the double-acting cylinders includes a hydraulic cylinder and at least one of the fluid-driven motors includes a reversible, hydraulic motor.

10. The system of claim 7, further including:  
a plurality of flow control valve arrangements, each of the plurality of flow control valve arrangements being associated with and being configured to control pressurized fluid flow to one of the plurality of double-acting cylinders.

Claim 11 (Canceled).

12. The system of claim 10, wherein each of the plurality of flow control valve arrangements includes four metering valves.

13. The system of claim 12, wherein the four metering valves include a pair of meter-in valves and a pair of meter-out valves.

14. The system of claim 10, wherein at least one of the plurality of flow control valve arrangements includes an independent metering valve.

15. A method for controlling a hydraulic circuit, comprising:

- supplying fluid to at least one motor and to at least one cylinder from a pressurized supply;
- directing fluid away from the at least one cylinder and into a tank;
- directing fluid away from the at least one motor, across a back pressure element, and into a tank;
- directing fluid from the pressurized supply to a first flow line that includes a combination main relief and by-pass valve;
- directing fluid from a pilot fluid supply to a second flow line that includes a pilot relief valve, the second flow line being parallel to the first flow line; and
- supplying a dedicated make-up fluid supply from at least one of the first flow line and the second flow line to a valve arrangement at a location between the at least one motor and the back pressure element.

16. The method of claim 15, further including introducing make-up fluid to the at least one motor.

Claims 17-20 (Canceled).

21. The method of claim 15, wherein said directing fluid away from the at least one cylinder includes directing fluid into the tank without passing across the back pressure element.



**IX. Evidence Appendix**

None

**X. Related Proceedings Appendix**

None